REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 25 are requested to be cancelled.

Claims 1, 11, 21, 31, 39 and 41 are currently being amended.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-2, 4-22, 24, 26-39, and 41-50 are now pending in this application.

The Examiner rejected claims 1, 4-5, 9, 11-13, 15, 17-18, 21, 24-25, 29-33, 37, 41, 43-44, 46-47 and 49 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,702,788, in the name of Peterson, et al. Additionally, claims 2, 6-8, 10, 14, 16, 22, 26-28, 34, 36, 35, 30, and claim 38 were rejected under 35 U.S.C. § 103(a) based upon the Peterson, et al. reference in view of other pieces of prior art. Applicant acknowledges and appreciates the Examiner's indication of allowability of claims 19, 39, 42, 45, 48 and 50.

In response to the Examiner's rejections, Applicants have amended independent claims 1, 11, 21, 31 and 41 to more particularly define the nature of the present invention and to more easily identify the differences between the claimed invention and the cited prior art. Each of these amendments is discussed below.

Independent claim 1 has been amended to replace the phrase "providing a signal response to the at least one monitored criterion for controlling at least one output criterion of the transmitter" with the phrase "selectively adjusting the output of the transmitter in direct response to the at least one criterion associated with heat generated by the transmitter."

Applicant respectfully submits that this feature is not taught, disclosed or suggested by the Peterson, et al. reference.

As is clearly discussed in the "Summary of the Invention" of the present application, the present invention is intended to address particular drawbacks in mobile station transmitters during multi-slot transmission, where thermal effects can adversely effect the transmitter's amplifier and can lead to damage in the transmitter itself. In order to address this issue, the present invention as described in claim 1 involves the monitoring of characteristics that are directly associated with heat that can be generated by the transmitter during transmission, including, but not limited to, the number of data bursts that are being transmitted during one or more time slots in a frame. The output of a transmitter is selectively adjusted in direct response to these heat-associated characteristics in order to prevent the problems that arise with conventional systems.

The Peterson, et al. reference does not discuss the adjusting of the transmitter's output in direct response to the at least one criterion associated with heat generated by the transmitter. Although the Peterson, et al. reference does teach using various signals in response to different criteria, these criteria are not directly related to the heat that is generated by the transmitter. For example, column 9, lines 6-18 discusses a situation where the signal power level can be increased to a level of either 1 or 2. However, this adjustment is not made based upon criteria associated with heat generated by the transmitter. Instead, these adjustments are made based on external factors, notably the power requirements that would be needed to successfully transmit the signal. Column 9, lines 12-18 are particularly illuminating in this regard

> However, where the communication device utilizing the third burst period is operating with an obstruction between itself and the BTS utilizing the present invention, the desired power level may be a factor of six times (6x) greater than the standard provided attenuator/amplifier 213, resulting in a signal power level of 2 (6x 1/3 output from this attenuator/amplifier).

This section clearly shows that, although the Peterson, et al. reference may disclose the ability to adjust the power level of the transmitter for individual bursts periods, this

adjustment is not made in light of any heat associated characteristic, but instead performed in light of other external characteristics.

In the July 28, 2005 Official Action, the Examiner asserted that the Peterson reference provides a signal responsive to the at least one monitored criterion, relying on column 8, line 59 to column 9, line 27, as well as column 9, lines 42-59 of the Peterson reference for this support. However, the statements relied upon by the Examiner do not address the issue of selectively adjusting the transmitter's output in direct response to a heat associated criterion. As discussed above, the criterion that are used in column 9 of the Peterson, et al. reference do not directly relate to the heat that is being generated, but instead only relate to the power requirements that are necessary to complete an acceptable transmission. In fact, the Peterson, et al. reference is completely silent as to the entire issue which the present invention intends to address, namely the ability to control the heat generated by the transmitter to prevent thermal related problems and damage. In fact, the Peterson, et al. reference is entirely silent as to any heat related issues at all. The present invention, on the other hand, is directed specifically to the monitoring and control of heat related affects on the transmitter.

The Examiner has taken the position that "it is inherent when the burst rate is increased that the heat is also increased." However, this position does not change the central difference from the present invention and the Peterson, et al. reference. In the present invention, the transmission output is altered directly in response to heat related affects, namely whether the amount of heat being generated raises a potential issue for the transmitter. The Peterson, et al. reference uses entirely separate criteria for making such adjustments.

Lastly, the Examiner has relied upon column 12, lines 13-24 to assert that the Peterson, et al. reference discloses the controlling of at least one output criterion of the transmitter. This section of the Peterson, et al reference discloses the possibility of using additional, separate attenuator/amplifier and MUX combinations for independent power control of two-burst and three-burst systems. However, this independent control has nothing to do with adjusting power transmission to overcome heat related issues. Furthermore, it should be noted that use of multiple amplifiers is similar to what has already been described as a generally deficient approach to solving the problem that the present invention addresses.

In particular, paragraph 9 of the present application discusses the possibility of increasing the power amplifier capacity, which is similar in many respects to adding an additional amplifier. However, and as noted in the application, this would require an increase in the size of the mobile station which is undesirable given general preferences for more compact products. Furthermore, adding additional amplifiers will also inherently increase the costs of such a system, which is undesirable in a number of respects.

For all of the above reasons, applicants respectfully submits that the Peterson, et al. reference does not discuss the selective adjustment of the transmitter output in direct response to the at least one criteria associated with heat generated by the transmitter.

Independent claim 11 has been amended to describe how the operation of the transmitter is changed "to decrease the transmission power level" if the monitored number (of data bursts) falls outside of the predetermined limit. This is discussed in detail in paragraph 45 of the present application, where the number of multi-time slot transmission over a certain number of frames is monitored. If the counted number of transmissions approaches or exceed the upper limit of transmissions over a given period of time or a number of frames, then the control system is able to effect a change that ultimately will reduce the power level in order to prevent or alleviate any heat related problems.

Once again, the Peterson, et al. reference does not disclose, teach or suggest this feature. Instead, the Peterson, et al. reference only teaches the advance regulation of burst periods, and then operating the transmitter in accordance with this advance determination. The Examiner's reliance on column 4, line 61-67 is misplaced in this regard. This section of the Peterson, et al. reference only discusses the fact that conventional TDMA systems may have 3, 6 or 8 time slots per frame. However, the fact that conventional systems have this many slots per frame does not address the fact that, if all of these slots are used, the problems addressed by the present invention can still arise. For example, if a full strength signal is transmitted over each of 8 time slots, then the system of the Peterson reference will still continue to operate, even though the heat generated by the transmitter will exceed recommended or even acceptable levels. The present invention, on the other hand, takes the use of such time slots a step further. In the present invention, regardless of whether the

predefined settings for the number of time slots is 3, 6 or 8 time slots, the present invention enables the automatic adjustment of the transmission power levels if the number of bursts actually being transmitted results in unacceptably high heat levels in the vicinity of the transmitter. The Peterson, et al. reference allows for no such adjustment at all. Instead, the Peterson, et al. reference, once the time slot parameters have been set, makes no subsequent adjustments for heat related reasons. For this reason, applicant submits that independent claim 11 and its respective claims are patentable over the Peterson, et al reference as well.

Independent claim 21 has been amended to incorporate the limitations of claim 25, namely to describe how if the monitored criterion exceeds a predetermined limit, than the power output of the transmitter will be decreased. Like independent claims 1 and 11, amended independent claim 21 is not taught or suggested by the Peterson, et al. reference.

The Examiner has relied on column 3, lines 30-36 for the assertion that the Peterson, et al. reference teaches the decreasing of the transmitter's power output if the monitored criterion exceeds a certain threshold. However, applicant respectfully disagrees with this position. Column 3, lines 30-36, when read in conjunction with the immediately preceding text, clearly demonstrates that the power output is not decreased in response to a threshold being exceeded in the Peterson, et al reference. In particular, column 3, lines 26-29, states "in addition to providing the increased C/I ratio due to dynamic adjustment of the power level, the narrow beams provide an increased likelihood of a single communication device being located in a particular beam." In other words, the use of narrower beams in the Peterson, et al. reference, results in a more precise signal being transmitted, which allows from lower power to be used. This section does not refer to any adjustment of the power output in light of any threshold being exceeded. Independent claims 21, on the other hand, refers to an entirely different situation, namely where, regardless of the type of transmitter used, if a predetermined threshold such as a heat threshold is exceeded at the transmitter, then the power level is adjusted accordingly. This feature is not taught or even suggested at column 3, lines 30-36.

Independent claims 31 and 41 have both been amended to more clearly discuss the output criterion as serving to decrease the transmission power level in light of the monitored

criterion falling outside of a predetermined limit. Once again, this feature is not taught or disclosed by the Peterson, et al. reference. As discussed above, the Peterson, et al. reference does not provide for any heat related adjustment of the transmission power level. Although the Peterson, et al. reference does discuss that the power level can be adjusted in various situations, these adjustments are not dependent upon any heat specific associated criteria. In particular, the Peterson, et al. reference discusses either the adjustment of the power level based on external factors such as potential obstructions, or determining power levels in advance before transmission, such as various predetermined settings for 2 or 3 burst situations.

The present invention, on the other hand, is intended to address issues that can arise in any of these embodiments described by the Peterson, et al. reference. Each of the embodiments in the Peterson, et al. reference, can result in a situation where the amount of heat generated by the transmitter will reach an unacceptable level. In fact, the situation described at column 12, lines 6-18 is a prime example of such a situation. In this situation, if the communication devices involved in the Peterson, et al. reference need to increase their power in order to overcome an obstruction, then the likelihood of an excessive amount of heat being generated becomes quite high. In this case, the Peterson, et al. reference has no built-in mechanism to address this problem. The present invention, on the other hand, provides a method for making the proper adjustments to prevent any adverse heat related effects.

For these reasons, applicant respectfully submits that each of the dependent claims, as well as all of the dependent claims, rejected under 35 U.S.C. § 102(e) are patentable as amended over the prior art.

With regard to the Examiner's rejections under 35 U.S.C. § 103, applicant respectfully submits that each of the rejected claims are patentable for the same reasons as discussed above. In particular, because the Peterson, et al. reference does not discuss any method or system for adjusting the output criteria and/or the transmission power level based upon generated heat related criteria, applicant respectfully submits that these claims are all allowable as well.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 06-1450. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 06-1450. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 06-1450.

Respectfully submitted,

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